CLAIMS

What is claimed is:

1. A method for analyzing a base sequence, comprising the steps of forming a thin film for immobilizing a base sequence test sample, on the front surface of a first board; stretching and immobilizing a base sequence test sample on the thin film; cutting the base sequence test sample in this state into fragments by means of an enzyme; heating and vaporizing the thin film in a desired region by a heating means, to shoot the fragment of the base sequence test sample in the desired region from the front surface of the first board, in order that the fragment can be arrested on the front surface of a second board disposed in opposite to the front surface of the first board; and analyzing the base sequence in this state.

2. A method for analyzing a base sequence, comprising the steps of forming a thin film for immobilizing a base sequence test sample, on an ablation layer containing a material capable of being vaporized by heating, formed on the front surface of a first board; stretching and immobilizing a base sequence test sample on the ablation layer; cutting the base sequence test sample in this state into fragments by means of an enzyme; heating and vaporizing the ablation layer in a desired region by a heating means, to shoot the fragment of the base sequence test sample in the desired region from the front surface of the first board, in order that the fragment can be arrested on the front surface of a second board disposed in opposite to the front surface of the first board; and analyzing the base sequence in this state.

3. A method for analyzing a base sequence, characterized in that the base sequence analysis as set forth in claim 1 or 2 is carried out sequentially fragment by fragment from one end toward the other end of the stretched and immobilized base sequence test sample, to analyze the entire base sequence of the base sequence test sample.

4. A method for analyzing a base sequence, according to claim 1 or 2, wherein the thin film for immobilizing a base sequence test sample is a polymeric gel.

5. A method for analyzing a base sequence, according to claim 1 or 2, wherein the thin film for immobilizing a base sequence test sample has depressions and projections formed at a very small pitch.

6. A method for analyzing a base sequence, according to claim 5, wherein the material of the thin film is polymethyl methacrylate (PMMA).

7. A method for analyzing a base sequence, according to claim 5, wherein the pitch is in a range of 0.1 μm to 10 μm.

8. A method for analyzing a base sequence, according to claim 1 or 2, wherein the heating means is laser beam irradiation from the back surface of the first board.

9. A method for analyzing a base sequence, according to claim 1 or 2, wherein the heating means is an electric heater pre-formed in the first board.

10. A method for analyzing a base sequence, according to claim 2, wherein the material capable of being vaporized by heating, contained in the ablation layer, is plastic.

11. A method for analyzing a base sequence, according to claim 2, wherein in the case where laser beam irradiation from the back surface of the first board is used as the heating means, the ablation layer contains a beam-absorbable material, in addition to the material capable of being vaporized by heating.

12. A method for analyzing a base sequence, according to claim 11, wherein the beam-absorbable material is carbon.

13. A method for analyzing a base sequence, according to claim 11 or 12, wherein the beam-absorbable material is vapor-deposited between the material capable of being vaporized by heating and the first board.

14. An apparatus for analyzing a base sequence, comprising a first board having a thin film formed on its front surface for allowing a base sequence test sample to be stretched and immobilized on the thin film; a heating means for heating and vaporizing the thin film in a desired region; and a second board disposed in opposite to the front surface of the first board.

15. An apparatus for analyzing a base sequence, comprising a first board having a thin film for allowing a base sequence test sample to be stretched and immobilized, formed on an ablation layer containing a material capable of being vaporized by heating, formed on the front surface of the first board ; a heating means for heating and vaporizing the ablation layer in a desired region; and a second board disposed in opposite to the front surface of the first board.

16. An apparatus for analyzing a base sequence, according to claim

14 or 15, wherein the thin film for immobilizing a base sequence test sample is a polymeric gel.

17. An apparatus for analyzing a base sequence, according to claim 14 or 15, wherein the thin film for immobilizing a base sequence test sample has depressions and projections formed at a very small pitch.

18. An apparatus for analyzing a base sequence, according to claim 17, wherein the material of the thin film is polymethyl methacrylate (PMMA).

19. An apparatus for analyzing a base sequence, according to claim 17, wherein the pitch is in a range of 0.1 μm to 10 μm.

20. An apparatus for analyzing a base sequence, according to claim 14 or 15, wherein the heating means is laser beam irradiation from the back surface of the first board.

21. An apparatus for analyzing a base sequence, according to claim 14 or 15, wherein the heating means is an electric heater pre-formed in the first board.

22. An apparatus for analyzing a base sequence, according to claim 15, wherein the material capable of being vaporized by heating, contained in the ablation layer is plastic.

23. An apparatus for analyzing a base sequence, according to claim 15, wherein in the case where laser beam irradiation from the back surface of the first board is used as the heating means, the ablation layer contains a beam-absorbable material, in addition to the material capable of being vaporized by heating.

24. An apparatus for analyzing a base sequence, according to claim 23, wherein the beam-absorbable material is carbon.

25. An apparatus for analyzing a base sequence, according to claim 23 or 24, wherein the beam-absorbable material is vapor-deposited between the material capable of being vaporized by heating and the first board.